

Amendments to the Claims

The following Listing of Claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (original): A method of extracting from an input image a graphical bar code containing graphically encoded information, comprising:

trimming non-graphical bar code regions from the input image based upon estimated position coordinates for a detected graphical bar code candidate to produce a trimmed graphical bar code candidate for decoding.

Claim 2 (original): The method of claim 1, further comprising cropping the input image before trimming based upon estimated position coordinates for a detected graphical bar code candidate to produce an inclusive image region encompassing the detected graphical bar code.

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Claim 3 (original): The method of claim 1, further comprising computing the angular orientation of the detected graphical bar code candidate.

Claim 4 (original): The method of claim 3, wherein the non-graphical bar code regions are trimmed based upon intensity histogram profiles obtained by summing intensity values along orthogonal axes corresponding to the computed angular orientation of the detected graphical bar code candidate.

Claim 5 (original): The method of claim 4, wherein the non-graphical bar code regions are trimmed based upon application of a threshold to the intensity histogram profiles.

Claim 6 (original): The method of claim 4, wherein the non-graphical bar code regions are trimmed based upon a comparison of expected graphical bar code dimensions with the intensity histogram profiles.

Claim 7 (original): The method of claim 3, further comprising de-skewing the detected graphical bar code candidate before the non-graphical bar code regions are trimmed.

Claim 8 (original): The method of claim 1, further comprising rotating the input image and processing the rotated input image to detect a graphical bar code candidate in response to a failure to detect a graphical bar code candidate in the input image before rotation.

Claim 9 (original): The method of claim 1, further comprising detecting a graphical bar code candidate based upon a second training sample in response to a failure to detect a graphical bar code candidate in the input image based upon a first training sample.

Claim 10 (original): The method of claim 9, wherein the second training sample is a rotated version of the first training sample.

Claim 11 (original): The method of claim 1, further comprising extracting a second graphical bar code candidate detected in the input image in response to a determination that a first extracted graphical bar code candidate does not correspond to the graphical bar code.

Claim 12 (original): The method of claim 1, further comprising resolution scaling the trimmed graphical bar code candidate.

Claim 13 (original): A system for extracting from an input image a graphical bar code containing graphically encoded information, comprising a graphical bar code extractor configured to:

trim non-graphical bar code regions from the input image based upon estimated position coordinates for a detected graphical bar code candidate to produce a trimmed graphical bar code candidate for decoding.

Claim 14 (original): The system of claim 13, wherein the graphical bar code extractor is configured to crop the input image before trimming based upon estimated position

coordinates for a detected graphical bar code candidate to produce an inclusive image region encompassing the detected graphical bar code.

Claim 15 (original): The system of claim 13, wherein the non-graphical bar code regions are trimmed based upon intensity histogram profiles obtained by summing intensity values along orthogonal axes corresponding to a computed angular orientation of the detected graphical bar code candidate.

Claim 16 (original): The system of claim 13, wherein the graphical bar code extractor is configured to de-skew the detected graphical bar code candidate before the non-graphical bar code regions are trimmed.

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Claim 17 (original): The system of claim 13, wherein the graphical bar code extractor is configured to rotate the input image and process the rotated input image to detect a graphical bar code candidate in response to a failure to detect a graphical bar code candidate in the input image before rotation.

Claim 18 (original): The system of claim 13, wherein the graphical bar code extractor is configured to detect a graphical bar code candidate based upon a second training sample in response to a failure to detect a graphical bar code candidate in the input image based upon a first training sample.

Claim 19 (original): The system of claim 13, wherein the graphical bar code extractor is configured to extract a second graphical bar code candidate detected in the input image in response to a determination that a first extracted graphical bar code candidate does not correspond to the graphical bar code.

Claim 20 (original): A computer program residing on a computer-readable medium and comprising computer-readable instructions for causing a computer to:

trim non-graphical bar code regions from the input image based upon estimated position coordinates for a detected graphical bar code candidate to produce a trimmed graphical bar code candidate for decoding.

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Claim 21 (new): The method of claim 1, further comprising decoding the graphical bar code candidate.

Claim 22 (new): The system of claim 13, further comprising a decoder configured to decode the graphical bar code candidate.

Claim 23 (new): The computer program of claim 20, further comprising computer-readable instructions for causing the computer to crop the input image before trimming based upon estimated position coordinates for a detected graphical bar code candidate to produce an inclusive image region encompassing the detected graphical bar code.

Claim 24 (new): The computer program of claim 20, further comprising computer-readable instructions for causing the computer to compute the angular orientation of the detected graphical bar code candidate.

Claim 25 (new): The computer program of claim 24, wherein the non-graphical bar code regions are trimmed based upon intensity histogram profiles obtained by summing intensity values along orthogonal axes corresponding to the computed angular orientation of the detected graphical bar code candidate.

Claim 26 (new): The computer program of claim 25, wherein the non-graphical bar code regions are trimmed based upon application of a threshold to the intensity histogram profiles.

Claim 27 (new): The computer program of claim 25, wherein the non-graphical bar code regions are trimmed based upon a comparison of expected graphical bar code dimensions with the intensity histogram profiles.

Claim 28 (new): The computer program of claim 24, further comprising computer-readable instructions for causing the computer to de-skew the detected graphical bar code candidate before the non-graphical bar code regions are trimmed.

Claim 29 (new): The computer program of claim 20, further comprising computer-readable instructions for causing the computer to rotate the input image and processing the rotated input image to detect a graphical bar code candidate in response to a failure to detect a graphical bar code candidate in the input image before rotation.

Claim 30 (new): The computer program of claim 20, further comprising computer-readable instructions for causing the computer to detect a graphical bar code candidate based upon a second training sample in response to a failure to detect a graphical bar code candidate in the input image based upon a first training sample.

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Claim 31 (new): The computer program of claim 30, wherein the second training sample is a rotated version of the first training sample.

Claim 32 (new): The computer program of claim 20, further comprising computer-readable instructions for causing the computer to extract a second graphical bar code candidate detected in the input image in response to a determination that a first extracted graphical bar code candidate does not correspond to the graphical bar code.

Claim 33 (new): The computer program of claim 20, further comprising computer-readable instructions for causing the computer to resolution-scale the trimmed graphical bar code candidate.

Claim 34 (new): The computer program of claim 20, further comprising computer-readable instructions for causing the computer to decode the graphical bar code candidate.
